United States Environmental Protection Agency
Office of Air Quality Planning and Standards
Research Triangle Park, NC 27711
EPA-454/C-01-001
Volume XII, No. 1
Winter 2001

Table of Contents

The CHIEF Newsletter *is produced quarterly by the Emission Factor and Inventory Group; Emissions, Monitoring, and Analysis Division; of EPA's Office of Air Quality Planning and Standards. Its purpose is to enhance communication within the emission factor and inventory community by providing new and useful information and by allowing for the exchange of information between and among its readers. Comments on the* **Newsletter** *and articles for inclusion in it are welcome and should be directed to Emission Factor and Inventory Group (MD-14), US EPA, Research Triangle Park, NC 27711; telephone (919) 541-1000 or email info.chief@epa.gov.*

The contents of **The CHIEF Newsletter** *do not necessarily reflect the views and policies of the Agency, neither does the mention of trade names or commercial products constitute endorsement or recommendation for use.*

1996 National Toxics Inventory Is Available on AIRSData

by Anne Pope, US EPA

On January 16, the 1996 National Toxics Inventory (NTI) became publicly available on the AIRSData web site. AIRSData gives you access to air pollution data for the entire United States and contains ambient air monitoring and emission inventory data. Online searches are performed in AIRSData. Through AIRSData, targeted queries can be run by Hazardous Air Pollutant (HAP), geographic area, source type, and source category (for MACT sources) to generate data summaries. The web address for AIRSData is:

http://www.epa.gov/airsdata/nti.htm.

Four NTI report types are available on AIRSData. These include the following:

Facility Emissions - lists each facility in order of its HAP emissions, ranking them from largest to smallest. This report includes major and area source facilities. Data are summarized at the facility level.

Facility Count - lists the number of facilities and total HAP emissions for each geographic area (county, State, or EPA region). This report includes major and area source facilities. Data are summarized at the county, State, or national level.

MACT - includes the number of sources and total HAP emissions for each EPA's Maximum Achievable Control Technology (MACT) source category included in the NTI. This report summarizes the HAP emissions by MACT source categories. For each category, the MACT Report presents the total point (major and area) and non-point (area) HAP emissions. Data are summarized at the county, State, or national level.

Emissions Summary - summarizes all HAP emissions (major sources, area and other stationary sources, and mobile sources). Area sources include facility (point) and non-point sources.

Mobile sources include on-road and non-road sources. Data are summarized at the county, State, or national level.

The 1996 NTI includes estimates of emissions from stationary point and non-point and mobile source categories. Point source categories include major and area sources as defined in section 112 of the Clean Air Act (CAA). The 1996 NTI point source data contains estimates of facility-specific HAP emissions and their source-specific parameters necessary for modeling such as location and facility characteristics (stack height, exit velocity, temperature, etc.). Non-point sources in the NTI include area sources that are not identified as point sources because their specific locations are not known.

Non-point sources also include other stationary sources such as wildfires and prescribed burning whose emissions are estimated at the county level and may be more appropriately addressed by other programs rather than through regulations developed under certain air toxics provisions (sections 112 or 129) in the CAA. Mobile sources include on-road and non-road categories.

Major sources: Major sources, as defined

1996 NTI *(continued from p. 2)*

by Section 112 of the CAA, are stationary sources that emit or have the potential to emit 10 tons per year or more of any listed HAP or 25 tons per year or more of a combination of listed HAPs. When estimates of potential emissions were not available, the NTI identifies point sources as major based on actual emissions being at or above 10/25 tons per year.

The NTI includes facility data for major sources. Examples of major sources include electric utility plants, chemical plants, steel mills, oil refineries, and hazardous waste incinerators. These sources may release air toxics from equipment leaks, when materials are transferred from one location to another, or during discharge through emissions stacks or vents.

> "AIRSData gives you access to air pollution data for the entire U.S. and contains ambient air monitoring and emission inventory data."

Area and Other sources: Area sources, as defined by Section 112 of the Clean Air Act, are stationary sources that emit or have the potential to emit less than 10 tons per year of a single HAP or less than 25 tons per year of a combination of HAPs. When estimates of potential emissions were not available, the NTI identifies point sources as area based only on actual emissions being below 10/25 tons per year. The NTI includes facility data for some area sources and aggregated emission estimates at the county level for the remaining area sources. Area sources are regulated under toxics provisions in the Clean Air Act. Examples of area sources include neighborhood dry cleaners and gas stations. Though emissions from individual area sources are often relatively small, collectively their emissions can be of concern particularly where large numbers of sources are located in heavily populated areas (http://www.epa.gov/ttn/uatw/pollsour.html).

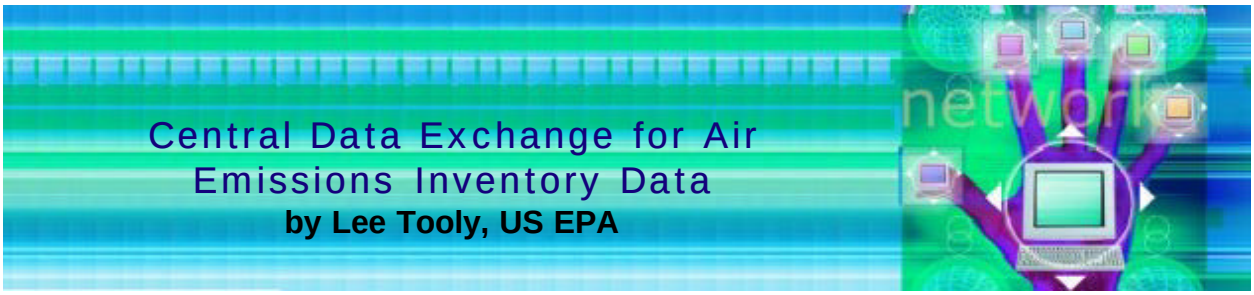
Other stationary sources are sources that may be more appropriately addressed by other programs rather than through regulations developed under certain air toxics provisions (sections 112 or 129) in the CAA. Examples of other sources include wildfires and prescribed burning whose emissions are being addressed through the burning policy agreed to by EPA and USDA.

The NTI includes aggregated emission estimates at the county level for these other sources.

Mobile sources: Mobile source categories include on-road vehicles, non-road 2- and 4-stroke and diesel engines, off road vehicles, aircraft, locomotives, and commercial marine vessels.

The NTI includes aggregated emission estimates at the county level for mobile sources.

The AIRSData web site is very user friendly and quick in response to queries. As we update the 1996 NTI and compile the 1999 NTI, AIRSData will be updated with new NTI data. For more information, please contact Anne Pope, (919) 541-5373, pope.anne@epa.gov.



Central Data Exchange for Air Emissions Inventory Data

by Lee Tooly, US EPA

The way that data is moved electronically to the Environmental Protection Agency (EPA) is changing somewhat now that the Agency's Office of Environmental Information (OEI) will be operating and maintaining a centralized (and more secure) location for data receipt.

As part of the Reinventing Environmental Information (REI) Plan, the EPA is developing centralized capabilities for electronic reporting through a central data exchange (CDX) facility. The CDX provides a single point of entry for reporting required under EPA programs. The CDX will receive secure electronic submissions from facilities, states, and other environmental stakeholders. The CDX will be capable of receiving these submissions in a variety of formats, including user-defined flat files, eXtensible Markup Language (XML), and Web forms submitted over the Internet. Once submissions are received, the CDX will:

- receive and virus-scan submitted files,
- log the transaction,
- acknowledge receipt of the submitted file,
- archive the inbound data,
- notify the receiving EPA system that files have been submitted and can be downloaded/distributed,
- and also, at request of programs, directly upload data received from States and/or facilities into their legacy program databases.

OEI has provided the design and infrastructure support to do a CDX pilot with the EPA's Emission Factor and Inventory Group (EFIG) and state / local agency participants, including Michigan, West Virginia, Alabama and Maricopa County, Arizona. The CDX is not expected to alter the respective programs' data transfer formats – in our case presently, the NEI Input Format (formerly known as the NET Input Format). Submission of Air Emission Inventories (AEI) from State and local air programs to EFIG is one of the first set of electronic reporting transactions to be pilot tested through the prototype CDX.

The pilot test for electronic reporting of AEI flat files, using the National Emission Inventory (NEI) Input Format (NIF), achieved the following results:

- All five State/local participants successfully filled out the submittal form and uploaded their NIF flat files through the CDX.
- EFIG successfully downloaded submitted files from the CDX staging server.
- The NIF flat files received by EFIG were the same as the flat files submitted by the participants.

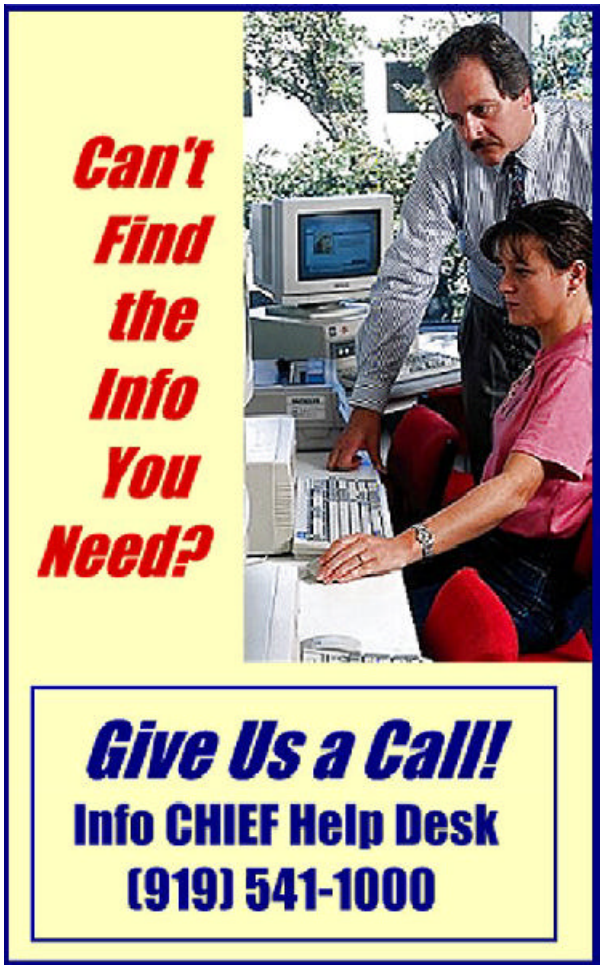
CDX *(continued from p. 4)*

- The test successfully demonstrated the first use of an electronic version of the NEI web submittal form, whereby data from the form could be directly loaded into EFIG's tracking system.
- The test successfully demonstrated the first use of Secure Socket Layer (SSL)-secured transmissions through the CDX and the first CDX use of mutual authentication via SSL.

As a result of this pilot test, EFIG plans to allow submission of NIF flat file production data through the CDX in June 2001, the beginning of the next update cycle for the 1999 National Emission Inventory. Formal advertisements of this, and associated 'how to' materials are expected to begin circulating to prospective S/L data submitters in early Spring.

Pilot participants provided positive feedback and constructive comments, and noted that the CDX procedure was as easy as making prior submittals through EPA ftp sites. Some recommendations for improving the web submittal form included the following: adding an upload progress indicator, clarifying the use of submittal number in Section II of the form, adding a label to the size cutoff in Section V of the form, and providing online help (hyperlinks). These recommendations can be easily incorporated for use in submitting production data in June 2001. Following this successful completion of the NIF flat file pilot test, submission of XML NIF 2.0 files through the CDX will be tested.

This work provides a model for the State-EPA vision of a National Environmental Information Exchange Network by encouraging use of national standards for data exchange for air and other media data, demonstrating the use of secure sockets layer (SSL) and public key certificates to securely exchange files over the Internet, testing the use of XML and may eventually explore "active data retrieval" as a new form of State-EPA exchange. You may find additional information about the CDX at EPA and the National Environmental Information Exchange Network on the EPA OEI Website: http://www.epa.gov/oei/iii.htm.



Are You Going?
The 10th Annual Emission Inventory Conference

by Sally Dombrowski, US EPA

The US Environmental Protection Agency invites you to attend the tenth annual Emission Inventory Conference, “One Atmosphere, One Inventory, Many Challenges,” to be held April 30 - May 3, 2001. This conference provides an excellent opportunity to meet and interact with technical experts from across the emission inventory community, including Federal, State and local regulatory agencies, regional planning organizations, tribal governments, the private sector, academia, and international organizations. The papers to be presented will provide the latest information on topics concerning the preparation, evaluation, and use of air emissions data. In addition, training courses available at the opening of the conference offer an excellent opportunity to broaden your skills regarding various aspects of emission inventory preparation.

We are excited about offering Denver as the location for this conference. The Adams Mark Hotel, the site of the conference, is located on Denver's walking mall with many shopping, tourism, culinary, and entertainment sites nearby for the evening hours. Denver boasts a vibrant downtown as well as 5 national sports franchises (baseball, basketball, football, hockey, and soccer). You may want to come before, or stay after the conference to enjoy some of the rich history and beautiful sites the area has to offer (skiing is often available at nearby resorts into the spring and early summer). Our Entertainment Committee will provide you with information on things to do at the conference. A block of rooms has been reserved at a rate of $83.00 per night.

Registration and the preliminary program, with logistics information, are available online at http://www.epa.gov/ttn/chief/conferences.html. There is NO registration fee for the conference or the training sessions, but registration is mandatory. If you have questions, please contact Sally Dombrowski at dombrowski.sally@epa.gov or (919) 541-3269. Come take advantage of an excellent conference in a beautiful location at a great time of year!

Emission Inventories for Tribal Lands

by David Misenheimer, US EPA

One of the primary activities of the Emission Factor and Inventory Group is to compile an inventory of air emissions (criteria and hazardous air pollutants) for all sources in the United States. We are beginning work on the 1999 National Emission Inventory (NEI). We encourage tribes to review the draft NEI which will be available in October 2001 and help us to ensure accurate characterization of sources on American Indian lands. Also, we encourage tribes with emission inventories to provide us their data prior to June 1, 2001, so that we can incorporate the data into the NEI database. This database will be used as the basis for modeling efforts of EPA and Regional Planning Organizations, human exposure modeling, and tracking of air pollutant trends. For more information, contact David Misenheimer at (919) 541-5473 or misenheimer.david@epa.gov.

Emissions Modeling Clearinghouse

by Gregory Stella, US EPA

The Emissions Modeling Team (EMT) of the Emission Factor and Inventory Group has recently released its first version of its Emissions Modeling Clearinghouse Website. This Clearinghouse has been designed to support and promote emission modeling activities both internal and external to EPA. Through this site the EPA intends to distribute emissions model input formatted inventories based on the latest versions of its National Emission Trends (NET) databases. In addition to the emissions data, this site will be used to document and distribute the Agency's latest versions of the ancillary files used to support the temporal, spatial, speciation, and projection of these emissions.

Eventually the EMT hopes to add links to other State/Local/Workgroup analyses, data, and results through a separate section of the Clearinghouse framework. Although numerous links to other sources of emissions, modeling factors, and emissions models are made available through this site, the EPA does not actively support the use of any one inventory, set of factors, or emissions models for input development to air quality modeling.

For more information, please visit the Emissions Modeling Clearinghouse site at:

http://www.epa.gov/ttn/chief/emch/

or contact:
Gregory Stella
(919) 541-3649
stella.greg@epa.gov